UNIVERSITÄT BERN

THE VOICE OF TRUSTWORTHINESS

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RESEARCH QUESTIONS

- Affects menstrual cycle phase the perceived trustworthiness of women's voices?
- Are changes in perceived trustworthiness and attractiveness of female voices context-dependent?

INTRODUCTION

- Many studies suggest that women's voices are affected by menstrual cycle[1,2,3]
- However, these studies focused on vocal attractiveness only

METHOD

- The voice of 18 female speakers (M = 22.7 years, SD = 3.4) was recorded around ovulation and in the luteal phase
- Ovulation was determined by means of ovulation tests and the cycle phases will be confirmed by means of hormone assays[4]

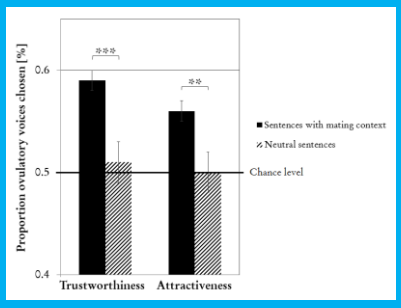
- From each speaker, voice recordings of both cycle phases were paired
- Three sentences were of neutral content and three sentences suggested a mating context
- 27 independent participants (22 women, M = 22.8 years, SD = 3.0) were asked to pick the voice sample of each pair that sounded more trustworthy (Block 1) or more attractive (Block 2) in a two-alternative forced choice paradigm

CONCLUSION

- Women's voices seem to sound more trustworthy and more attractive in a mating context when fertile

RESULTS

- Voice samples recorded around ovulation were perceived as sounding more trustworthy (M = .59, SD = .05, $t(26)$ = 9.159, p < .001) and more attractive (M = .56, SD = .10, $t(26)$ = 3.071, p < .01) than those recorded in the luteal phase, but only in sentences with mating context
- In neutral sentences, there was no preference (trustworthiness: M = .51, SD = .06, $t(26)$ = .841, p = .41; attractiveness: M = .50, SD = .11, $t(26)$ = .194, p = .85)



- Stimulus voice samples were analyzed for 17 phonetic parameters using Praat software[5]
- ANOVAs with menstrual cycle phase (ovulation/luteal phase) and sentence content (mating/neutral) as factors revealed:
  - Significantly higher variability in fundamental frequency around ovulation compared to the luteal phase ($F(1,17)$ = 7.502, p = .014, η_p^2 = .306)
  - Significantly higher mean loudness in the luteal phase compared to around ovulation ($F(1,17)$ = 4.794, p = .043, η_p^2 = .22)

DISCUSSION

- Women's voices around ovulation are not only perceived as more attractive but also as more trustworthy than in the luteal phase (limitation: mostly female raters)
- Interestingly, the ovulatory voice was only preferred in sentences with mating context, illustrating the importance of speech content
- Women accentuate more around ovulation and seem to speak with increased loudness in the luteal phase

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